

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1998	Park: Shenandoah NP						
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Name: Jeff P. Raffensperger	Phone: 924-0581	Email: n/a					
Permit#: SHEN1998N-222							
Park-assigned Study Id. #: unknown							
Project Title: Modeling Silica Variations In Stream Water At The Catchment Scale							
Permit Start Date: Jan 01, 1998	Permit Expiration Date Jan 01, 1999						
Study Start Date: Jan 01, 1996	Study End Date Jan 01, 1998						
Study Status: Completed							
Activity Type: Research							
Subject/Discipline: Water / Hydrology							
Objectives: <p>The objective of my research was to determine how water reaches streams during storm events. This has implications for the hydrochemical response of the streams, and for this study I used dissolved silica as a natural geochemical tracer. Using information gained at the field site, a model that predicts time series of stream discharge and concentration was developed.</p>							
Findings and Status: <p>Perched water tables form in the shallow subsurface and this is considered to be a mechanism involved in the rapid transport of water to streams during storm events. Groundwater concentrations of dissolved silica are influenced by the weathering of the saprolite underlying the entire catchment. The field portion of this research is completed. Two papers describing this research are in review at Water Resources Research, the leading journal in hydrology, and the role of the NPS in coordinating this work is acknowledged. My master's thesis is completed and I will send two copies of this to Shenandoah NP within a few weeks.</p>							
For this study, were one or more specimens collected and removed from the park but not destroyed during analyses? No							
Funding provided this reporting year by NPS: 0	Funding provided this reporting year by other sources: 500						
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college							
Full name of college or university:	Annual funding provided by NPS to university or college this reporting year:						

n/a	0
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